

Engineering developments for the CLIC tracking system

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The CLIC detector tracking system is currently composed of a vertex detector with three double-sided layers of silicon detectors on both the barrel and forward regions and a silicon tracker consisting of six barrel layers and four/seven endcap disks on the outer/inner tracker subsystems, respectively.

The strict requirements in terms of material budget (2 x 0.2% X₀ per vertex double layer and 1% X₀ per tracker layer) require the development of novel low-mass support structures and non-conventional cooling solutions.

This talk will present the layout and support structures concepts that are currently being explored for the tracker as well as first results from finite element simulations and small scale prototypes. In addition, the developments on the prototyping of vertex detector staves for thermal studies will also be reported.

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